

## **REMARKS**

Applicants respectfully submit that the claims are in condition for allowance. The claims are directed to a citrus juice beverage composition comprising four components. A claim also is directed to a method for making the citrus juice beverage compositions. This citrus juice beverage composition has sensory and texture attributes comparable to those of the citrus juice component, i.e., of whole juice. Applicants respectfully submit that the cited documents, and the prior art in general, neither suggests nor discloses the claimed compositions.

### **The Invention**

The invention is directed to a citrus juice beverage composition comprising four components. The four components are a citrus juice component, a pulp component, a sweetener, and a diluent. The independent citrus juice beverage composition claims are claims 1, 14, 15, and 19. Claim 18 is the sole method claim.

#### *The Citrus Juice Component*

The citrus juice component has a Brix level of at least about 9°. As disclosed in the specification, the citrus juice component source can be any whole juice source, including a juice concentrate that is diluted appropriately to provide the citrus juice component and a not-from-concentrate whole juice source.

#### *The Pulp Component*

The pulp component originates from a citrus juice. The component is a sinking pulp or bottom pulp component. This component is made up of insoluble materials, and this pulp source contains pectin. Often, floating pulp is subjected to size reduction to transform it into a sinking pulp. Claims 14 and 19 require that the pulp component originate from floating pulp.

### *The Sweetener*

The sweetener is a low-calorie or no-calorie sweetener. Artificial or non-nutritive sweeteners are suitable.

### *The Diluent*

The diluent is any fluid that adds no significant level of sugars to the citrus juice beverage composition. Water is an economical, readily available diluent.

### *The Relative Proportions of The Components*

The proportion of the citrus juice component is from about 20 to about 80 wt percent (claims 1, 15, and 19) or at least about 30 to about 90 wt percent (claim 14), based on the weight of the citrus juice beverage composition. The pulp component is present in an amount of from about 3 to about 20 wt percent, based on the weight of the juice beverage. A quantity of diluent sufficient to lower the Brix of the citrus juice component to 3°-9° is used. Claim 15 calls for a diluent sufficient to reduce the caloric or sugar level as much as 70 percent. The proportion of sweetener typically is very low, for example, 0.01 – 0.5 wt percent for sucralose.

### *The Properties and Characteristics of The Citrus Juice Beverage Composition*

The citrus juice beverage composition has a Brix of between 3° and 9°. The citrus juice beverage composition of the invention has sensory and texture attributes comparable to those of the citrus juice component at its Brix level. These properties and characteristics include mouth feel and taste profile very similar to 100 percent citrus juice. Indeed, the citrus juice beverage composition mimics whole-juice citrus juice component. The sensory taste, texture, and mouth feel properties and characteristics exceed those of known reduced calorie beverages and closely mimic whole, full-calorie citrus juice.

The skilled practitioner recognizes that the citrus juice beverage composition has a sinking pulp concentration that is greater than the sinking pulp concentration of diluted citrus juice component. Thus, the sinking pulp concentration of citrus juice beverage composition of the invention is higher than the sinking pulp concentration of diluted whole juice component.

*The method and product-by-process claims*

The invention also is directed to a process for preparing the citrus juice beverage (claim 18) and to a beverage produced by a process (claim 19). As set forth in claim 18, citrus juice beverage composition is prepared by combining citrus juice component, pulp component, diluent, and sweetener, and homogenizing the combination. Claim 19 is directed to a citrus juice beverage composition made in accordance with a method in which floating pulp is homogenized into a sinking pulp component originating from a citrus juice. That homogenized sinking pulp component is combined with a citrus juice component, a diluent, and a sweetener.

**The Office Action**

Claims 1-20 were pending and examined.

Claims 1, 4, 7, 8, 14-17, and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Powers, United States Patent Number 4,889,739. Various features of Powers have been identified as relevant, including in particular dilution of concentrate by addition of water. For example, feed juices are disclosed (column 7, lines 2-19) as having a sinking pulp value of 8% or less; Brix of Example 1 is 13.7°. At column 4, line 65, the “original sinking pulp” value is disclosed as “at least about 10%.” The office action asserts that it would have been obvious to over-dilute juice to extend the juice and yield a greater quantity of drinkable product. The Office Action also asserts that it would have been obvious to fortify the diluted beverage of Powers with

sinking pulp, which is said to be known for providing a “hand-squeezed character.” The way the sinking pulp is made is said not to support this compound claim. In particular, Powers *removes* some of the sinking pulp.

Essentially the same claims (1-4, 7, 8, and 14-17) stand rejected under 35 U.S.C. § 103(a) as unpatentable over Ojima, United States Patent Number 7,029,717, in view of Powers. Ojima is cited solely for the disclosure of an orange juice beverage containing sucralose, as the remainder of the rejection relies on Powers.

Claims 1 and 3-20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kupper, United States Patent Number 4,690,827, in view of Powers. The office action admits that Kupper does not recite use of sinking pulp (and indeed therefore cannot disclose use of citrus sinking pulp). However, Powers is again cited for the remaining points argued in the office action.

#### The Cited Documents

##### *Powers*

Powers is directed to a method for obtaining juices said to taste ‘hand-squeezed.’ Gentle juicing to obtain low-viscosity juices having low levels of sinking pulp and complete removal of sensible pulp is the key to obtaining Powers’ desired product. Also, a number of procedures are followed to minimize titratable peel oil and flavanoid glycosides.

The object of Powers is to remove all sensible (floating) pulp and to *remove* some sinking pulp. Substantially all sensible pulp is removed from the juice to minimize adsorption of aroma and flavor compounds and to increase the efficiency of concentration. Aroma and flavor compounds are heavily refined to ensure that only the best aromas and flavors are returned to the

product. Then, sinking pulp *is removed* to lower the viscosity. About 8 - 10 wt percent sinking pulp is the maximum amount tolerable by Powers, depending on the species of orange.

A concentration process also is disclosed, as is a plurality of individual compound concentrations achieved in accordance with the method. Reconstitution involves adding the appropriate amount of water, aroma, and flavor.

Importantly, the product of Powers has less sinking pulp than whole juice product, as *sinking pulp is removed* from Powers' juice.

Powers discloses only that the viscosity of the resultant product is low (in view of removal of the sinking pulp) as compared with juice of the same concentration. There is no disclosure of any of the other sensory and texture attributes of the product as compared with those of the feed juice. Indeed, Powers does not link the attributes of the product to those of the feed juice.

Powers adjusts the viscosity by *removing sinking pulp*. Further, Powers teaches away from taking out too much sinking pulp, as a watery product is undesirable. Thus, Powers teaches away from dilution, as the viscosity would become too low.

Further, Powers is directed to single-strength products, not to products having a diluent to lower the brix from that of the starting juice.

As the office action admits, Powers does not suggest or disclose use of an artificial sweetener.

#### *Ojima*

Ojima is directed to sucralose-containing compositions. The compositions are said to provide significant stability for the sucralose. The sole relevant disclosure appears to be

Example 50, which is directed to an orange juice-containing drink comprising a number of compounds. The sensory and texture attributes of the start juice and of the end product are not disclosed, nor are any of the other properties relevant to the claims pending herein.

*Kupper*

Kupper is directed to a fruit juice beverage comprising a non-nutritive sweetener and more than the background pulp level that would be obtained by low shear mixing of the ingredients. Kupper's product is formed from three components: water, background pulp, and sweetener.

Kupper does not explicitly or inherently disclose a number of features of the claimed invention. In particular, Kupper neither suggests nor discloses a citrus juice beverage "having sensory and texture attributes comparable to those of said citrus juice component having its given Brix level." Kupper does not disclose the Brix level of any combination of starting and product citrus products, nor does it disclose a beverage having a low Brix but sensory and texture characteristics of a juice having a higher Brix.

*The Invention In View of the Cited Art*

Applicants respectfully submit that the cited art, whether considered alone or in the proposed combinations, does not suggest the claimed invention. The claimed invention requires the four aspects identified above; none of the cited documents suggests these features.

Applicants respectfully traverse the rejection of claims 1, 4, 7, 8, 14-17, and 20 over Powers, and of claims 1-4, 7, 8, and 14-17 over Ojima in view of Powers. Powers alone does not suggest the claimed invention, and Ojima's teaching of sucralose does not provide all of the features missing from Powers.

The claims require four components: a specific concentration of citrus juice component at a Brix of at least about 9°; from about 3 to about 20 wt percent sinking pulp from a citrus juice; a diluent to lower the Brix to between about 3 to about 9°, and a sweetener that does not contribute significant caloric load. Importantly, the resulting product has sensory and texture attributes comparable to those of the citrus juice having the Brix (at least 9°) of the start juice component, even though the Brix of the product is only 3 – 9°.

Applicants respectfully submit that Powers discloses nothing of the claimed invention. Powers is directed to a complex method for controlling viscosity to make the product seem ‘hand-squeezed,’ with all other sensory and texture properties remaining unmentioned. Powers also discloses *removal* of sinking pulp. Importantly, Powers discloses a single-strength juice, and teaches that ‘watery’ beverage is not acceptable.

Powers is antithetical to the claimed invention. Powers *removes* sinking pulp; the claimed invention requires 3-20% of a sinking pulp component. Powers cannot suggest the sinking pulp addition of the pending claims.

Applicants respectfully submit that Powers teaches away from, and indeed precludes, over-dilution or addition of water in quantity sufficient to take the concentration below single strength. Powers teaches that viscosity is an important property, and to be too watery is not acceptable.

Applicants respectfully submit that to dilute such a juice, as is suggested to have been obvious in the office action, does not yield the claimed invention. Simply diluting juice gives dilute juice that tastes like dilute juice and has sensory and texture attributes comparable to those of watered-down juice. Indeed, Powers teaches exactly this. Although, as the office action

asserts, orange juice **can** be diluted to any extent, diluted product simply does not have the sensory and texture attributes comparable to those of the full-strength juice from which it was made. The invention is not directed to dilute juice. Thus, the point is not that juice **can** be diluted. Rather, the point is that the product claimed in claims 1-17 is not dilute juice, it is a citrus juice beverage composition that has sensory characteristics like the whole juice component from which it is made. To make such a rejection, there must be a reason for the proposed modification, and the document itself cannot teach away from the proposal. These conditions are not met here, and the rejection is not well-founded.

Importantly, Applicants respectfully submit that the product suggested, over-diluted product of Powers, is not the claimed invention. Over-diluted product from Powers has a sinking pulp concentrations significantly lower than that of the whole juice, and of diluted juice, because **Powers removes sinking pulp from the product**. In contradistinction, the claimed citrus juice beverage composition has *additional* sinking pulp.

The office action asserts that the *way* in which sinking pulp is made is not relevant to a composition claim. Although Applicants do not dispute this statement as an abstract expression of the rules of practice, Applicants respectfully submit that this statement does not apply to the rejected claims. To the extent the assertion is understood to apply to these claims, Applicants respectfully submit that the limitation in question is directed to the *source* of the sinking pulp, a suitable support for a patentable distinction.

Applicants respectfully traverse the rejection based on Powers.

Further, Applicants respectfully submit that neither Powers nor the art in general contains anything that suggests use of a sweetener that does not add a significant caloric load to the



beverage to obtain the product claimed herein. The art is rife with disclosures of low-calorie sweeteners and the use thereof in juice-based products, but is silent with regard to any embodiment of the invention claimed in the pending application.

Indeed, Ojima is one such document. Applicants respectfully traverse the rejection of claims 1-4, 7, 8, and 14-17 over Ojima in view of Powers. As noted above, the sole disclosure for which Ojima is cited is the use of sucralose in an orange juice beverage. However, there is no disclosure in Ojima about the properties of the starting orange juice, and there is no disclosure about the properties of the resultant beverage.

Ojima doesn't deal with citrus juices. Ojima's product is a constructed drink. Further, Applicants respectfully submit that the result cannot be said to be inherently achieved, as the four components of the embodiments of the claimed invention simply are not found in Ojima, in Powers, or elsewhere in the art.

Thus, Applicants respectfully traverse the rejection of claims 1, 4, 7, 8, and 14-17 over Powers, and of claims 1-4, 7, 8, and 14-17 over Ojima in view of Powers.

Applicants respectfully traverse the rejection of claims 1 and 3-20 over Kupper in view of Powers. The citation of bits and pieces of Kupper in the office action does not form a proper basis for a rejection, as the document must be considered as a whole. As a whole, Applicants respectfully submit that Powers does not satisfy the defects of Kupper.

Applicants respectfully submit that the totality of the teachings of Kupper does not address the recitations in the claims. Pending claim 1 is directed to a citrus juice beverage having, *inter alia*, "a Brix level of between about 3 and about 9 Brix *while having sensory and texture attributes comparable to those of said citrus juice component having its given Brix level.*"

[emphasis added] Kupper in view of Powers does not disclose the claimed beverage. Kupper does not disclose that the resultant product has “sensory and texture attributes comparable to those of said citrus juice component,” and Powers does not satisfy this failure. Further, this characteristic is not inherently obtained in cited Kupper or Powers. Rather, this characteristic would not have been obvious to the skilled practitioner considering either of these documents as cited herein, or in the proposed combination.

Importantly, the beverage of Kupper can have many attributes, but these attributes need not be “comparable to those of said citrus juice component.” Further, Kupper does not disclose (explicitly or inherently) or suggest the other limitations of the claim. The detailed description in Kupper is devoid of any disclosure relating to the Brix level of the starting citrus juice component, or of the resultant beverage. Thus, there is no disclosure in Kupper of these limitations, nor are they inherently obtained. Further, Powers does not supply that which is missing from Kupper. Herein, applicants have identified a particular range of Brix and have claimed a beverage that has, *inter alia*, particular sensory and texture attributes. This beverage would not have been obvious over Kupper in view of Powers. Therefore, Kupper in view of Powers simply does not suggest the invention as claimed.

Importantly, neither Kupper nor Powers suggests that the resultant beverage has “sensory and texture attributes comparable to those of said citrus juice component having its given Brix level.” Indeed, the only example of Kupper that relates solely to orange juice contains no information about the properties and characteristics of the orange juice component and no information about the resultant product. The other example of Kupper comprises a significant fraction (greater than about 50 wt percent) of apricot puree. The properties and characteristics of

the resultant product are not disclosed. However, it is not likely that this product of Example II, which comprises greater than about 50 wt percent apricot puree, has ‘sensory and texture attributes comparable to said orange juice component.’ Note also that Kupper’s product has only three components – the claimed citrus juice beverage compositions require four components.

Importantly, Kupper and Powers teach away from each other. Kupper teaches addition of pulp, Powers teaches removal of pulp. This proposed combination is not well-founded.

Thus, Applicants respectfully traverse the rejection of claims 1 and 3-20 over Kupper in view of Powers. Kupper certainly does not suggest the present invention, and Powers does not fill the voids in Kupper’s disclosure so as to have made the invention to the skilled practitioner.

Although the remarks above have been directed primarily to composition claims 1-17 and 20, the points made therein apply similarly to the method claims (18 and 19) as well. Certainly, none of the cited documents, or indeed the prior art generally, suggests the claimed method and product-by-process claims.

**CONCLUSION**

Applicants respectfully submit that the claims are in condition for allowance. The prior art, whether considered individually or in combination as proposed, neither suggests nor discloses the embodiments claimed in the pending application. The cited art does not suggest each of the elements of the embodiments of the invention as set forth in the claims. Therefore, Applicants solicit favorable action on the claims.

Respectfully submitted,

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